Cambridge. At the end of this period, it is hoped that some conclusions can be drawn regarding the practical applications of this work.[1]

While, recently, this work has aroused interest in other countries, and also in the F.A.O., it may be superfluous to add that as usual, the authorities in India—the country which is in great need of these studies—evinced no interest in this work and made no effort to give any encouragement or facilities for the continuance of this study.

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November 11, 1964.

5. WINTER FOOD OF THE PAINTED PARTRIDGE [*FRANCOLINUS PICTUS* (JARDINE & SELBY)] IN RAJASTHAN[2]

Since my report about the occurrence of the Painted Partridge, *Francolinus pictus* (Jardine & Selby), in Rajasthan [*Newsletter for Birdwatchers*, 1963, **3** (2) : 4] I was looking for existing literature on its food, and found that practically nothing is known about the plant species, the seeds of which are usually taken by them. In the month of December, I was able to collect and analyse food from the crops of 9 Painted Partridge collected from Bisalpur, near Erinpura, Jodhpur District, Rajasthan. The contents were analysed by two methods: counting every seed (number method) and by measuring their weight.

The table reveals that seeds of *Brachiaria ramosa* are most preferred and they constitute 20·38% food of Painted Partridge in winter. The second preference of food is seeds of *Cucumis callosus* and *Cyperus rotundus*. It is surprising how the partridge is able to dig the *Cyperus* bulbs which are buried about 4 cm. under the hard soil. Next in preference are the seeds of *Tephrosia purpurea, Panicum antidotale, Zizyphus nummularia, Citrullus colocynthis, Tephrosia uniflora*, and *Cucumis prophetarum*.

It is interesting to compare the frequency of occurrence of the plants in nature, and that of seeds in partridge food. In nature the

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[1] Bhattacharya, B. C. (1964): Prearranging the sex of offspring. *New Scientist* **24** : 151-152.
Anon. (1964): Sex determination. *Family Planning* **13** : 66-68.

[2] Communicated by Dr. Ishwar Prakash, Animal Ecologist, Central Arid Zone Research Institute, Government of India, Jodhpur.

dominant species of plants in winter are *Aristida* spp. 50·89%, *Dicanthium annulatum* 18·56%, *Cymbopogon* 14·96%, *Eremopogon*

TABLE SHOWING THE FREQUENCY OF SEEDS IN CROPS OF PAINTED PARTRIDGE AS COMPARED TO PLANT SPECIES FOUND IN NATURE

S. No.	Species	Number	% Frequency in food	Wt. gm.	Total % of food (by wt.)	% of plant in nature
	Seeds :					
1.	*Zizyphus nummularia*	48	0·8	2·0	5·58	0·5
2.	*Cucumis callosus*	1448	24·5	4·6	12·85	2·0
3.	*Cucumis prophetarum*	208	3·4	1·8	5·02	(during monsoon)
4.	*Cyperus rotundus*	220	3·5	4·6	12·85	0·1
5.	*Cyperus* sp.	85	1·07	1·4	3·91	..
6.	*Tephrosia purpurea*	443	7·35	4·2	11·66	2·3 to 4·5
7.	*Tephrosia uniflora* subsp. *petrosa*	138	2·30	2·0	5·58	
8.	*Solanum albicaule*	104	1·7	0·6	1·60	<0·1
9.	*Pentatropis spiralis*	70	1·1	0·7	1·95	<0·1
10.	*Mukia maderaspatana*	25	0·4	0·7	1·95	<0·5
11.	*Panicum antidotale*	635	10·5	2·1	5·80	..
12.	*Citrullus colocynthis*	48	0·8	2·0	5·58	2·0 (in winter)
13.	*Phaseolus mungo*	34	0·6	1·5	4·10	..
14.	*Brachiaria ramosa*	2481	41·0	7·3	20·38	<0·5
	Insects :					
1.	Large ants, *Monomorium indicum*	23	0·38	0·3	0·80	..
2.	Lady-bird beetles	2	0·03	..	..	..
	14 Plant species 2 Insect species	6648	99·43	35·8	99·61	..

6·5%, (all grasses). When we turn to the menu of Painted Partridge, it is found that none of the plant species consumed exceeds 4·5% of natural vegetation, rather most of the plant species preferred by the

Painted Partridge are below 0·5% of the natural vegetation. It also shows how selective the Painted Partridge is in its feeding habits. Therefore, its food is not governed by the availability of certain plant species which occur in large number, but it searches and selects its favoured food, which may be only 0·1% of the natural vegetation. This is also the case with insect food. The orthoptera represent by far the greater majority of insects at Bisalpur but the Painted Partridge eats large ants, *Monomorium indicum*, and small lady-bird beetles.

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JODHPUR, RAJASTHAN,
June 19, 1963.

S. C. SHARMA

6. THE JUNGLE BUSH QUAIL [*PERDICULA ASIATICA* (LATHAM)] : A NEW RACE FROM SOUTH INDIA

In 1963, the Virus Research Centre's field station at Vellore, North Arcot District, Madras, sent some birds to the Bombay Natural History Society for identification. A Jungle Bush Quail [*Perdicula asiatica* (Latham)] appeared to differ from those in the Society's collection by the throat being a dark chocolate-brown as against various shades of chestnut in birds from other areas. H.A. suggested that, with a few more specimens, it might be possible to determine whether this was only an individual variation or represented a different race in that area. In February 1964, R.R. obtained eight more specimens. An examination of the 78 skins now available in Bombay does not support the position outlined in the SYNOPSIS, where Ripley accepts three races from India:

Perdicula asiatica asiatica (Latham) (Type loc.: Mahratta region). In Rajasthan, Bombay, Madhya Pradesh, Bihar, West Bengal, Orissa, and south through Andhra to Madras and Mysore.

Perdicula asiatica punjaubi Whistler (Ambala, Punjab). In Kashmir, East Punjab, Himachal Pradesh, Delhi, and Uttar Pradesh.

Perdicula asiatica vidali Whistler & Kinnear (Kelsi, South Konkan). In Malabar Coast through Kerala.

Our examination prompts the following remarks:

Perdicula asiatica asiatica

In *J. Bombay nat. Hist. Soc.* **38** : 385, Whistler restricted the type locality to Poona, whence we have 3 ♂♂ and 1 ♀. Unfortunately they have clipped wings indicating that they were purchased from trappers, but it is unlikely that they were brought over any great distance.